



IntercontinentalExchange® (ICE®) became the center of global trading in “soft” commodities with its acquisition of the New York Board of Trade (NYBOT) in 2007.

Now known as ICE Futures U.S.®, the exchange offers futures and options on futures on soft commodities including coffee, cocoa, frozen concentrated orange juice, cotton and sugar, including the benchmark for global price discovery, the Sugar No.11® contract.

Sugar futures have traded in New York since 1914, beginning with the predecessors of ICE Futures U.S.: the Coffee, Sugar and Cocoa Exchange and the New York Board of Trade. Options on sugar futures were introduced in 1982. Futures and options on futures have been used by the global sugar industry to price and hedge transactions. In addition, sugar’s role in ethanol production increasingly make it both an energy and food commodity, and no exchange is positioned better to take advantage of this dual role than ICE Futures U.S. Finally, the deep and liquid nature of the sugar market has made it a favorite of commodity trading advisors and hedge funds.

#### THE SUGAR MARKET

Nearly all sugar in world commerce today is sucrose derived from either sugar cane or sugar beets, accounting for about 70% and 30% of world production, respectively. The resulting sugar is the same regardless of source. The source that began the vast world sugar trade, sugar cane, is thought to have originated in New Guinea, made its way to India and then into the Arab world. The English word “sugar” comes from the Spanish “azúcar,” itself a derivation of the Arabic and Persian word, “shakar.”

Sugar cane quite literally changed history. Columbus brought the plant to the Caribbean, and it soon was cultivated in large plantations there and in Brazil using slave labor. Sugar, molasses and rum were exported throughout the Atlantic Basin and became the economic basis for European colonies in the New World.

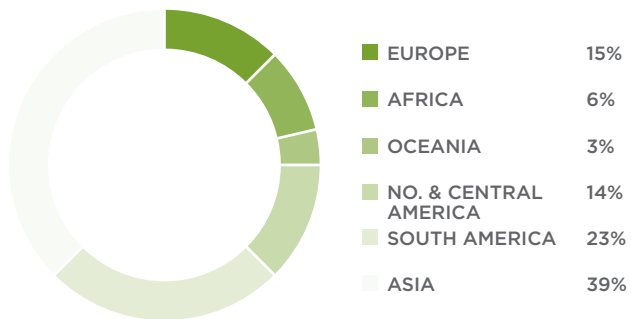
Sugar cane is by far the most efficient converter of solar energy

into useable plant carbohydrates, at about 8% versus just over 1% for corn. This efficiency derives from a biochemical quirk involving the photosynthetic arrangement of four carbon atoms (instead of three), and allows the sugar cane to pull vast quantities of carbon dioxide out of the air. The ability of the sugar cane plant to capture so much of the sun’s energy makes it the most efficient feedstock for ethanol distillation. This is why Brazil, which ironically is now on its way to becoming a major petroleum producer, has steered its domestic vehicle fleet towards ethanol since the late 1970s.

Sugar cane is a hot weather plant, which is why the largest growing areas are in South Asia, Brazil, the Caribbean Basin and the southern United States. Sugar beets are grown in cool temperate zones such as the northern Great Plains, Germany and France. Both cane and beets must be processed into raw sugar very soon after the plants are harvested or else their sugar content will drop precipitously.

The global distribution of sugar production for the 2007-2008 crop season - the crop year extending from October 1, 2007 to September 30, 2008 - indicates general geographical production areas.

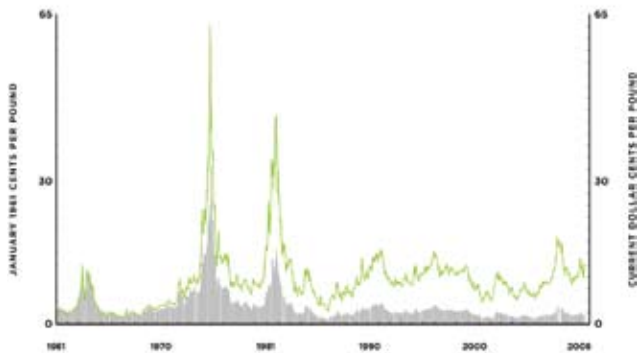
**F.O. LICHT 2007 - 2008 WORLD SUGAR PRODUCTION:  
175.835 MILLION METRIC TONS**



Source: F.O. Licht

Not only is sugar cane an efficient plant, the growers of cane and beets are efficient producers. While sugar futures have exhibited substantial volatility since the early 1960s, the constant-dollar price of sugar deflated by the U.S. Producer Price Index has remained flat as the world's population has more than doubled and as the ethanol industry has grown.

**REAL PRICE OF SUGAR REFLECTS INCREASED  
PRODUCTIVITY**



Source: CRB-Infotech CD-Rom

**SUGAR TRADE ISSUES**

One aspect of the global sugar trade that has remained constant since colonial days is the widespread subsidization of growers, import restrictions and trade blocs. Part of the reason

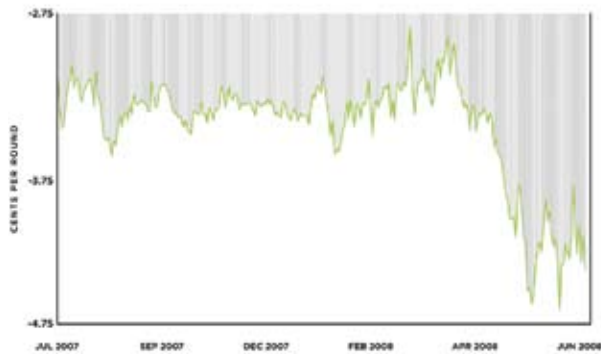
for the long-term downward pressure on real sugar prices has been production subsidies and import protections, whether they're American tariffs, European beet subsidies or other factors. The U.S. domestic sugar price represented by the ICE Sugar No. 14 contract (which will ultimately be replaced by the ICE Sugar No. 16 contract) is nearly two times the Sugar No. 11 price. This price disparity, which has been close to 3:1 in the past, has had a profound effect on U.S. confectioners, bakers and soft drink manufacturers, many of whom have either left the business or switched to high fructose corn syrup as a sweetener. U.S. trade agreements for sugar include The Caribbean Basin Initiative, the African Growth and Opportunity Act and the North American Free Trade Agreement.

The longstanding price supports and trade restrictions of the European Union's Common Agricultural Policy (CAP), first implemented in 1968, created such a surplus of European beet sugar that only Brazil exported more sugar. As was the case in the U.S., European sugar prices were two to three times higher than world levels, a price maintained only by keeping sugar imports, often produced in very poor countries, out of the European market. These inequities ended with the adoption of a new EU sugar market regime, which came into force on July 1, 2006 and will remain in effect until September 30, 2015. The European sugar regime is designed to lower EU sugar prices, reduce EU sugar production and exports, reduce import quotas and limit the re-export of sugar from African, Caribbean and Pacific (ACP) countries under the Cotonou Agreement or ACP/EU Sugar Protocol.

As a result of these various trade agreements and long-term contracts between producers and consumers, less than 50% of the world sugar trade occurs in what could be described as a free market. The nature of this market is changing, too, in what is shipped internationally. Many large importers, particularly in the Middle East, who previously imported refined sugar now import raw sugar and refine it locally. Predictably, this "destination refining" has pulled the price of raw sugar, the basis of the ICE Sugar No.11 contract, higher relative to the price of refined sugar.

This can be seen in the trade of buying October 2008 ICE No. 11 futures and selling December 2008 white sugar futures in London.

### F.O. LICHT 2007 - 2008 WORLD SUGAR PRODUCTION: 175.835 MILLION METRIC TONS



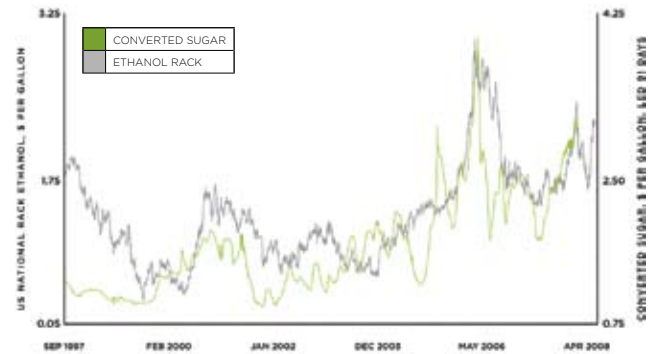
Source: F.O. Licht

No one should expect destination refining to disappear, even if the economics deteriorate. First, raw sugar, represented by the ICE Sugar No. 11 contract, always will be cheaper than refined white sugar, creating a competition along the supply chain to capture the difference. Second, raw sugar is cheaper to transport than refined sugar. Third, local markets believe local refineries improve supply quality. Fourth, local governments can and do favor locally refined sugar through a variety of means, including trade protections and mandated use. Finally, the economic value-added by a local refinery creates employment and service sector opportunities in that economy.

### THE ETHANOL TRADE

While the conversion of sugar to ethanol would have been understood by every pirate of the Caribbean, it is only in recent years this has become a critical part of the sugar trade. We can convert the price of sugar in cents per pound into an ethanol equivalent priced in dollars per gallon by multiplying it by .1477. This "synthetic ethanol" has led the U.S. rack price of corn-derived ethanol by 91 days, a calendar quarter, reliably since mid-1999. This tells us sugar is linked to the price of corn-derived ethanol, and hence to the price of corn itself.

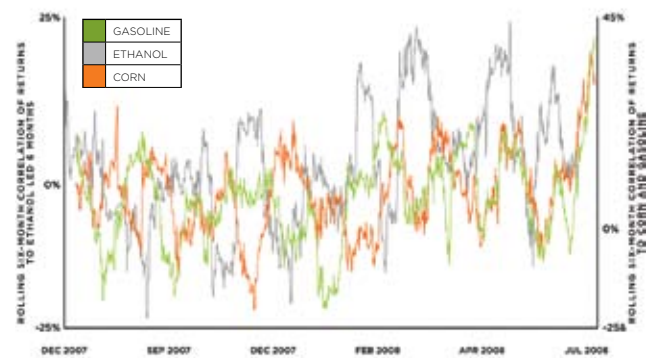
### ETHANOL RESPONDS TO SUGAR



Source: F.O. Licht

If that is the case, and if the price of ethanol is linked to the price of gasoline, then we should see an increased correlation between sugar and the prices of corn, ethanol and gasoline. This has been increasingly true in 2008; here the rolling six-month correlations of returns between sugar and both corn and gasoline reached unprecedented levels; the correlation to ethanol returns led six months should move higher as well. If the U.S. relaxes the tariff on imports of Brazilian ethanol, the link between the sugar in your food and the gasoline blend in your car may be tighter than ever.

### SUGAR INCREASINGLY A BIOFUEL COMMODITY: CORRELATION AGAINST SELECTED MARKETS



Source: Bloomberg

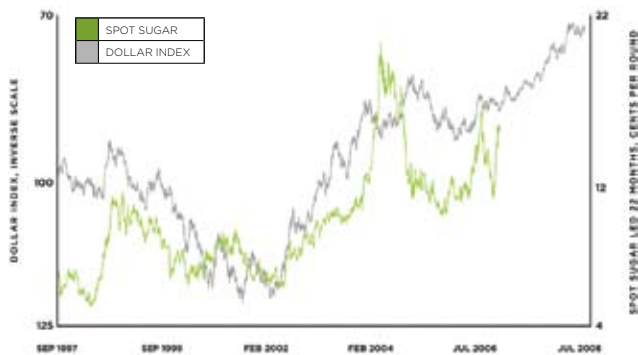
### THE CURRENCY LINK

Sugar, like so many commodities, is priced globally in U.S. dollars. This creates currency risk for growers whose expenses may be in a currency strengthening against the dollar but whose revenues are denominated in dollars. The ICE U.S. Dollar Index (USDXY) future affords a simple and reliable hedge

against broad movements in the dollar against a basket of currencies.

The most valuable trading information is a leading indicator, and this is provided by the dollar index to the price of sugar. The lead time, which averages 22 months, reflects all of the contract changes and production decisions in the sugar market induced by strength or weakness in the dollar. Regardless of how you trade the dollar index or use it in your market analysis, remember that when you trade sugar in dollars, you are trading the dollar index, whether you realize it or not.

### THE DOLLAR LEADS THE PRICE OF SUGAR



Source: Bloomberg

### ICE FUTURES U.S. SUGAR CONTRACTS

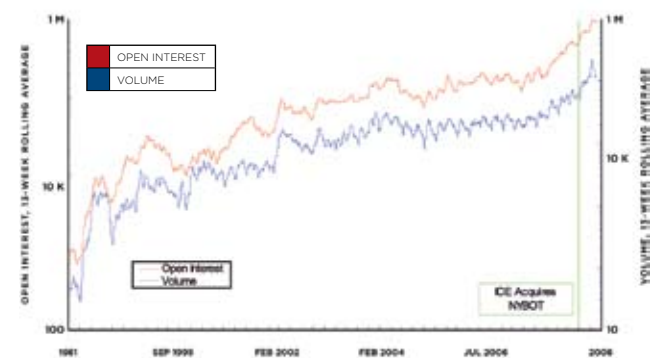
The ICE Futures U.S. Sugar No. 11 sugar futures contract is for the physical delivery of raw cane sugar, free-on-board the receiver's vessel to a port within the country of origin. The key specifications are:

HOURS	0330 EST TO 1400EST
SYMBOL	SB
SIZE	112,000 POUNDS (50 LONG TONNES)
QUOTATION	CENTS AND HUNDRETHS OF A CENT PER POUND TO TWO DECIMAL PLACES
CONTRACT CYCLE	MARCH - MAY - JULY - OCTOBER (JANUARY STARTING WITH JANUARY 2010)
MINIMUM FLUCTUATION (TICK)	.01 CENT; EACH .01 CENT = \$11.20 FLUCTUATION
SETTLEMENT	PHYSICAL DELIVERY, FOB RECEIVER'S VESSEL
GRADE	RAW CENTRIFUGAL CANE SUGAR BASED ON 96 DEGREES AVERAGE POLARIZATION
DAILY PRICE LIMIT	NONE
FIRST / LAST NOTICE DAY	FIRST BUSINESS DAY AFTER THE LAST TRADING DAY
LAST TRADING DAY	FOR MARCH-MAY-JULY-OCTOBER: LAST BUSINESS DAY OF THE MONTH PRECEDING DELIVERY FOR JANUARY: SECOND BUSINESS DAY BEFORE THE 24TH DAY OF THE PRIOR CALENDAR MONTH

A complete list of specifications, including deliverable growths and trading fees is available at: [www.theice.com/sugar11](http://www.theice.com/sugar11)

The volume and open interest of the Sugar No. 11 futures contract has been growing at an exponential rate in recent years. Much of this is attributable, here and elsewhere, to the adoption of electronic trading, which is far faster and more efficient than open outcry.

### LONG-TERM SUCCESS OF SUGAR NO. 11 CONTRACT



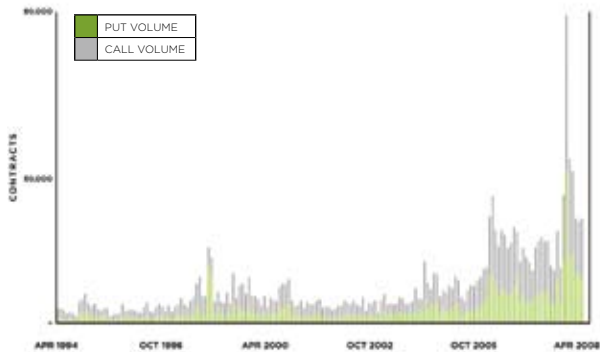
Source: CRB-Infotech CD-ROM

Options on Sugar No. 11 futures are also available. Each futures contract has options that settle into that contract along with serial options that expire before the futures contract does. An example of this is March futures underlie not only March options but January and February options as well. Option strikes are spaced 0.25 cents apart. The last trading day is the second Friday of the month preceding the contract month. A complete list of option specifications is available at:

[www.theice.com/sugar11\\_options](http://www.theice.com/sugar11_options)

Options trading volume on the Sugar No. 11 futures contract has grown significantly since 2005. Options tend to be used by two groups of sophisticated traders. The first is commercial participants hedging their physical positions. The second is experienced speculative traders. The growing use of these markets by both groups is a powerful signal of the Sugar No. 11 futures contract's success.

### AVERAGE DAILY TRADING VOLUME BY MONTH: SUGAR NO. 11 OPTIONS



Source: Bloomberg

The ICE Futures U.S. Sugar No. 16 futures contract, which began trading on September 26, 2008, is for the physical delivery of cane sugar of U.S. or duty-free foreign origin, duty paid and delivered in bulk to New York, Baltimore, Galveston, New Orleans or Savannah. The key specifications are:

#### ICE FUTURES U.S. SUGAR NO. 16 FUTURES SPECIFICATION

HOURS	0900 EST to 1400 EST
SYMBOL	SF
SIZE	112,000 POUNDS (150 LONG TONNES)
QUOTATION	CENTS AND HUNDRETHS OF A CENT PER POUND TO TWO DECIMAL PLACES
CONTRACT CYCLE	JAN-MAR-MAY-JUL-SEP-NOV
MINIMUM FLUCTUATION (TICK)	.01 CENT; EACH .01 CENT = \$11.20 FLUCTUATION
SETTLEMENT	PHYSICAL DELIVERY, IN A VESSEL BERTHED AT A CUSTOMARY REFINER'S BERTH
GRADE	RAW CENTRIFUGAL CANE SUGAR BASED ON 96 DEGREES AVERAGE POLARIZATION
DAILY PRICE LIMIT	NONE
FIRST / LAST NOTICE DAY	FIRST BUSINESS DAY AFTER THE LAST TRADING DAY
LAST TRADING DAY	EIGHTH CALENDAR DAY OF THE MONTH PRECEDING THE DELIVERY MONTH OR NEXT SUCCEEDING EXCHANGE BUSINESS DAY, IF THE EIGHTH DAY IS NOT AN EXCHANGE BUSINESS DAY

#### TRADING ICE FUTURES U.S. SUGAR FUTURES AND OPTIONS

Futures markets exist for the purposes of price discovery and risk transfer. Price discovery requires buyers and sellers to meet in a competitive marketplace; prices resulting from each transaction signal to other traders what a given commodity might be worth.

Anyone approved by a clearing member or futures commission

merchant can participate in the price discovery process, regardless of their participation in the sugar business. A market participant who is not in the sugar business will be classified as a non-commercial or speculative trader. A market participant active in the business will be classified as a commercial trader or hedging trader. For a speculator, the price discovery trade is simple and straightforward; if you believe the price of sugar will rise, you "go long" a futures contract; if you believe the price of sugar will fall, you "go short" a futures contract.

These same market views can be expressed in options as well. If you believe prices will rise, you can buy a call option, sell a put option or engage in a large number of spread trades tailored to your specific price view and risk acceptance. If you believe prices will fall, you can buy a put option, sell a call option or engage in a different set of spread trades. A long call (put) option is the right, but not the obligation, to go long (short) the underlying future at the strike price at or by expiration. A short call (put) option is the obligation to deliver (take delivery) of the underlying future at or by the expiration if that option is exercised.

Hedgers may use ICE Sugar No. 11 options frequently. Producers can set a floor beneath a selling price with long put options, and buyers can establish a ceiling over costs with long call options, among other strategies.

In a futures trade, you and the counterparty to your trade will post initial or original margin with your futures commission merchant or clearing member. Minimum margins are set by ICE Futures U.S., and your futures commission merchant may require additional funds. The margin schedule for ICE Futures U.S. is available at: [www.theice.com/margins](http://www.theice.com/margins)

There are no margin requirements for long option positions. Margin requirements for short option positions vary according to the relationship between the option strike price and the futures price.

If the market moves in your favor - higher for a long position (or commitment to take delivery of sugar or to offset the contract by selling it prior to delivery), or lower for a short position (or commitment to deliver sugar or to offset the contract by buying it prior to delivery) - the equity in your

account will increase. You may withdraw these funds down to the “maintenance margin” level, depending on your account agreement.

If the market moves adversely - lower for a long position or higher for a short position - your futures commission merchant will require you to post additional funds, called variation margin, to sustain your maintenance margin level. These “margin calls” assure both your futures commission merchant and ICE Clear U.S., the exchange clearinghouse, that you can perform according to your contractual commitment. All futures accounts are marked-to-market daily, and participants deficient in margin obligations may have positions liquidated involuntarily.

As the designated clearinghouse, ICE Clear U.S. serves as the counterparty to every futures contract traded on ICE Futures U.S. As a AAA-rated entity, the clearinghouse clears trades matched by ICE Futures U.S. and guarantees performance in delivery even if a trader defaults. The financial integrity and anonymity provided by ICE Clear U.S. are increasingly important in the financial system.

What do the financial flows look like in a futures trade? Let's say a five-contract October futures position is initiated at 13.91¢ per pound and the market rises to 14.21¢ per pound on the following trading day.

- For the long position, the gain is:  
**5 contracts x [14.21 - 13.91] / contract x \$11.20 per .01¢ = \$1,680**
- For the short position, the loss is equal and opposite:  
**5 contracts x [13.91 - 14.21] / contract x \$11.20 per .01¢ = -\$1,680**

If we reverse the price path, we reverse the gains and losses. Let's change the starting price to 13.98¢ per pound and have the market decline to 13.82¢ per pound the next day.

- For the long position, the loss is:  
**5 contracts x [13.82 - 13.98] / contract x \$11.20 per .01¢ = -\$896**

- For the short position, the gain is equal and opposite:  
**5 contracts x [13.98 - 13.82] / contract x \$11.20 per .01¢ = \$896**

Options traders see the same directional profit and loss profiles relative to price, but the actual profit and loss is subject to a range of additional factors, including market volatility, time to expiration, interest rates and the relationship between the current futures price and the option's strike price.

### RISK TRANSFER

Risk transfer is the second purpose of a futures market. Any grower of sugar, any holder of sugar inventories or any party at risk if the price of sugar declines can seek protection in the futures markets. These participants are long the market and can offset risk by going short a futures contract. Any sugar refiner, confectioner, baker, soft drink manufacturer, or any party at risk if the price of sugar increases is short the market and can offset risk by going long a futures contract.

The mechanics and financial flows are identical to those outlined above. A sugar grower at risk to prices falling can acquire a financial asset, the short futures position, which will rise in value as the market declines. The opposite is true for a confectioner at risk to prices rising; there a long futures position will rise in value as the market rises.

While the financial flows should offset the economic gains and losses of the physical sugar position, there are two important things to remember. First, even though futures prices converge to cash prices at expiration, the convergence process is subject to what is called “basis risk” or differences resulting from changes in hedging demand, location of the sugar and grade differentials.

Second, while the economic gains on, for example, a warehouse full of sugar are real, they are not realized until the sugar is sold. If this inventory is hedged with a short futures position and the market rises, the beneficial owner will have to keep posting additional funds in the margin account.

Nothing in the above discussion of hedging tells you when or at what price to hedge. This is one of the reasons options are valuable to hedgers. While the sugar grower may wish to

have downside protection or a price floor, that same grower probably wants to participate in any future price increases. The grower concerned about a decline in the value of sugar between now and the time he expects to be able to sell his cash crop at harvest in the fourth quarter could buy an October 14.00¢ put option, which is the right, but not the obligation, to receive a short position in an October future at 14¢ for 1.04¢, or approximately \$1,165. The purchased put guarantees the grower the right to sell the October future for an effective price of 12.96 cents per pound (the 14 cent strike price less the premium paid of 1.04 cents). This right gives him protection if sugar prices have fallen by the expiry of the October option, but at the same time preserves his ability to profit should the price of sugar move higher over the period.

The confectioner wishing to cap the price of sugar, but not be exposed to margin calls if the price continues to rise, can do an opposite trade and buy an October 14.00¢ call option, which is the right, but not the obligation, to receive a long position in an October future at 14¢ for 0.95¢, or approximately \$1,065. The purchased call gives the confectioner the right to buy the October future at an effective price of 14.95 cents per pound (again, the strike price of 14 cents plus the premium paid of .95 cents), offering protection against an unfavorable rise in the price of sugar while preserving the ability to take advantage if prices decline.

It should be noted that the risk profile for sellers of options is dramatically different than for buyers of options. For buyers, the risk of an option is limited to the premium or purchase price paid to buy the option. For sellers, the risk profile is unknown and can be potentially quite large.

Options can become complex very quickly, with trading influenced by variables including time remaining to contract expiration, underlying commodity volatility, short-term interest rates and a host of expected movements collectively called “the Greeks.”

**ABOUT ICE**

In addition to agricultural commodities, ICE operates existing futures and options markets for crude oil, refined products, natural gas, power, emissions, and foreign currency and equity index futures and options.

ICE conducts its energy futures markets through ICE Futures Europe<sup>®</sup>, its U.K. regulated London-based subsidiary, which offers the world's leading oil benchmarks and trades nearly half of the world's global crude oil futures. ICE conducts its soft commodity, foreign exchange and index markets through its U.S. regulated subsidiary, ICE Futures U.S., which provides global futures and options markets, as well as clearing services through ICE Clear U.S., its wholly owned clearinghouse. ICE's state-of-the-art electronic trading platform brings market access and transparency to participants in more than 50 countries.

ICE was added to the Russell 1000 Index in June 2006. Headquartered in Atlanta, ICE also has offices in Calgary, Chicago, Houston, London, New York and Singapore. ICE also conducts futures and options trading in canola oil, feed wheat and western barley through ICE Futures Canada TM, a regulated market in Manitoba, Canada.

**LEADING ELECTRONIC TRADING PLATFORM**

ICE's electronic trading platform provides rapid trade execution and is one of the world's most flexible, efficient and secure commodities trading systems. Accessible via direct connections, telecom hubs, the Internet or through a number of front-end providers, ICE offers a 3 millisecond transaction time in its futures markets, the fastest in the industry. ICE's platform is scalable and flexible – which means new products and functionality can be added without market disruption.

ICE offers numerous APIs for accessing futures and OTC markets, including a FIX API.

**INTEGRATED ACCESS TO GLOBAL DERIVATIVES MARKETS**

ICE's integrated futures and OTC markets offer cleared and bilateral products on a widely-distributed electronic platform, with quick response times to participants' needs, changing market conditions and evolving market trends.

**TRANSPARENCY**

Price transparency is vital for efficient and equitable operation of markets. ICE offers unprecedented price transparency and ensures that full depth-of-market is shown. Trades are executed on a first-in/first-out basis, ensuring fair execution priority. ICE also displays a live ticker of all deal terms, and maintains an electronic file of all transactions conducted in its markets.

**ICE FUTURES U.S. REGULATION**

ICE Futures U.S., Inc. is a designated contract market pursuant to the Commodity Exchange Act, as amended, and is regulated by the Commodity Futures Trading Commission. For well over a century, the Exchange has provided reliability, integrity and security in the global marketplace.

**GETTING INVOLVED**

A list of ICE Education programs is available at: [www.theice.com/education](http://www.theice.com/education); an overview of ICE capabilities is available at: [www.nxtbook.com/nxtbooks/ice/overview/#/0](http://www.nxtbook.com/nxtbooks/ice/overview/#/0). In addition to our other education offerings, ICE provides contract specific webinar presentations. A list of these presentations can be found at [www.theice.com/webinars](http://www.theice.com/webinars).

The ICE website [www.theice.com](http://www.theice.com) should be your first place to start. The home page for sugar is [www.theice.com/sugar11](http://www.theice.com/sugar11). The link: [www.theice.com/clear\\_us](http://www.theice.com/clear_us) provides you with the technical details on exchange rules, margins and fees and delivery and expiration.

To contact ICE Futures U.S., visit: [www.theice.com/contact](http://www.theice.com/contact)

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This brochure serves as an overview of the Sugar No. 11 and options markets and the Sugar No. 16 futures market of ICE Futures U.S. Examples and descriptions are designed to foster a better understanding of the Sugar No. 11 and Sugar No. 16 futures markets and the Sugar No. 11 options market. The examples and descriptions are not intended to serve as investment advice and cannot be the basis for any claim. While every effort has been made to ensure accuracy of the content, ICE Futures U.S. does not guarantee its accuracy, or completeness or that any particular trading result can be achieved. ICE Futures U.S. cannot be held liable for errors or omissions in the content of the brochure. Futures and options trading involves risk and is not suitable for everyone. Trading on ICE Futures U.S. is governed by specific rules and regulations set forth by the Exchange. These rules are subject to change. For more detailed information and specifications on any of the products traded on ICE Futures U.S., contact ICE Futures U.S. or a licensed broker.

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